CLAIMS

1. Extrusion process for the preparation of toughness-modified and layered silicate-reinforced thermoplastic systems, characterized in that both toughness modifier and layered silicate are introduced in substantially aqueous dispersion into the compounding system and that the water from the compounding system is at least partly removed during the extrusion.

2. Extrusion process according to claim 1, characterized in that the dispersions of toughness modifier and layered silicate are introduced separately into the compounding system.

3. Extrusion process according to claim 1, characterized in that the dispersions of toughness modifier and layered silicate are introduced together into the compounding system.

4. Extrusion process according to one of claims 1 to 3, characterized in that the water is at least partly removed from the compounding system by evaporation during the extrusion.

5. Extrusion process according to one of claims 1 to 4, characterized in that the toughness modifiers used include natural and synthetic rubber and mixtures thereof.

6. Extrusion process according to one of claims 1 to 5, characterized in that the toughness modifiers used include latex and latex mixtures.

7. Extrusion process according to claim 6, characterized in that the latex or the latex mixture or the rubber or the rubber mixture is prevulcanized.

8. Extrusion process according to one of claims 1 to 7, characterized in that the toughness modifier used has a particle size of 0.1-10 µm, preferably approximately 0.5 µm.

9. Extrusion process according to one of claims 1 to 8, characterized in that the structure of the particles of the toughness modifier consists of a core and a shell.

10. Extrusion process according to one of claims 1 to 9, characterized in that the particles of the toughness modifier have reactive groups on their surface.

11. Extrusion process according to one of claims 1 to 10. characterized in that the toughness modifier used is contained in the compounded product of the process in an amount of 1 - 40 wt.-%, preferably in an amount of 5-35 wt.-%.

12. Extrusion process according to one of claims 1 to 11, characterized in that the layered silicate used includes natural and synthetic layered silicates which are swellable with water, preferably Na-bentonite or Na-fluorohectorite.

13. Extrusion process according to one of claims 1 to 12, characterized in that the layered silicate is contained in the compounded product of the process in an amount of 1-10 wt.-%, preferably an amount of 4-8 wt.-%.

14. Extrusion process according to one of claims 1 to 13, characterized in that the substantially aqueous dispersion additionally contains up to 50 vol.-% of polar, water-soluble organic compounds, which include alcohols, glycols and water-soluble polymers.

15. Extrusion process according to one of claims 1 to 14, characterized in that cationic surfactants are added to the dispersion to post-stabilize the latex.